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ABSTRACT

To assess the impact of funds obtained through the Carl D. Perkins Vocational Education Act by the California Community Colleges (CCC), this report provides enrollment data and program accomplishments for academic years 1983-84 through 1990-91. The first part of the report features introductory material and extensive graphs of enrollment data for vocational education in the CCC. The second part provides brief descriptions of program accomplishments under the following headings: (1) "Adults in Need of Training"; (2) "Agriculture and Natural Resources" (discussing program improvement, in-service training, and student leadership development); (3) "Business Education" (highlighting the Statewide Community College Instructional and Administrative Telecommunications Model Network and professional development efforts); (4) "Career Counseling and Guidance"; (5) "Community-Based Organizations"; (6) "Consumer Home Economics" (discussing consumer and homemaking education funds, a plan for CCC home economics, and a program review); (7) "Cooperative Work Experience Education and Job Placement" (focusing on criteria and quality indicators and the Center for Cooperative Work Experience Education); (8) "Disadvantaged Students" (presenting a sampling of efforts to help disadvantaged students); (9) "Gender Equity" (focusing on the fields of business education, agriculture, industrial technology, and health careers); (10) "Handicapped Students" (discussing an increase in accessibility for handicapped students); (11) "Health Occupations" (listing various projects completed in the field); (12) "Public Safety Education" (discussing funding for vocational training through the State Department of Corrections); (13) "Single Parents and Displaced Homemakers" (highlighting efforts to bring higher education to these groups); and (14) "Trade and Industrial Education" (reviewing projects to evaluate educational software). (MAB)

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EXAMINING THE IMPACT

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A SUMMARY OF THE CARL D. PERKINS VOCATIONAL EDUCATION ACT 1983-84 THROUGH 1990-91

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1992

CONTENTS

Page

Board of Governors, California Community Colleges iv

Chancellor's Comments v

Introduction vi

Enrollment Data 1

- Total Vocational Education Enrollment, Fiscal Years 1983-84 Through 1990-91 2
- Total Vocational Education Enrollment, by Completers, Fiscal Years 1983-84 Through 1990-91 3
- Vocational Education Enrollment, by Program Area, Fiscal Years 1983-84 Through 1990-91 4
- Vocational Education Enrollment, by Special Program Area, Fiscal Years 1983-84 Through 1990-91 7

Page

Program Accomplishments 9

- Adults in Need of Training 10
- Agriculture and Natural Resources 11
- Business Education 13
- Career Counseling and Guidance 15
- Community-based Organizations 16
- Consumer Home Economics 17
- Cooperative Work Experience Education and Job Placement 20
- Disadvantaged Students 21
- Gender Equity 22
- Handicapped Students 24
- Health Occupations 25
- Public Safety Education 26
- Single Parents and Displaced Homemakers 27
- Trade and Industrial Education 29

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CHANCELLOR'S COMMENTS

THE intent of the Carl D. Perkins Vocational Education Act of 1984 was to strengthen and expand the economic base of the nation, develop human resources, reduce unemployment, and increase productivity by assisting the states in expanding, improving, and updating high-quality programs of vocational-technical education. The Act's goals were to expand, improve, and modernize existing programs, especially within economically depressed regions of the nation and each of its states. It was also designed to ensure the provision of vocational services to America's "special populations." I am delighted with the opportunity to present this publication, which examines and presents the impact of the Act and exemplifies the accomplishments made by California's community colleges in addressing the Act's intent and goals.

DAVID MERTES
Chancellor
California Community Colleges

INTRODUCTION

As this report was being prepared, vocational educators were involved in implementing the reauthorized Carl D. Perkins Act of 1990, often referred to as Perkins II. This report provides a retrospective of the years in which Perkins I funds were used to assist in delivering quality vocational education to the 107 community colleges in California. Those funds, which supplemented state funds and other funding sources, amounted to only about 4 percent of the total expenditures for vocational education in California's community colleges. However, because the funds were used to develop new and innovative programs, their effect on college programs was substantial.

The information contained in this report is limited to the data required by the Vocational Education Act to account for the use of funds. Of course, the programs and services offered by community colleges are much broader than those described in the report.

An important feature of California community college students, who average twenty-seven years of age, is that many are already employed and attend college part time. They are taking classes to upgrade their skills and knowledge.

Federal law requires the reporting of numbers of program completers, and that information is presented in this report. The college system encourages students to complete certificate and degree programs. Many students in community colleges have short-term vocational goals that are met by skills gained in one or more specific courses. When colleges provide students with retraining or upgrading of a specific skill they need to reach their goal, they become "completers" not accounted for in this report. Some students attending a community college have already completed a degree (from associate degree to doctorate) and enroll specifically to upgrade their skills.

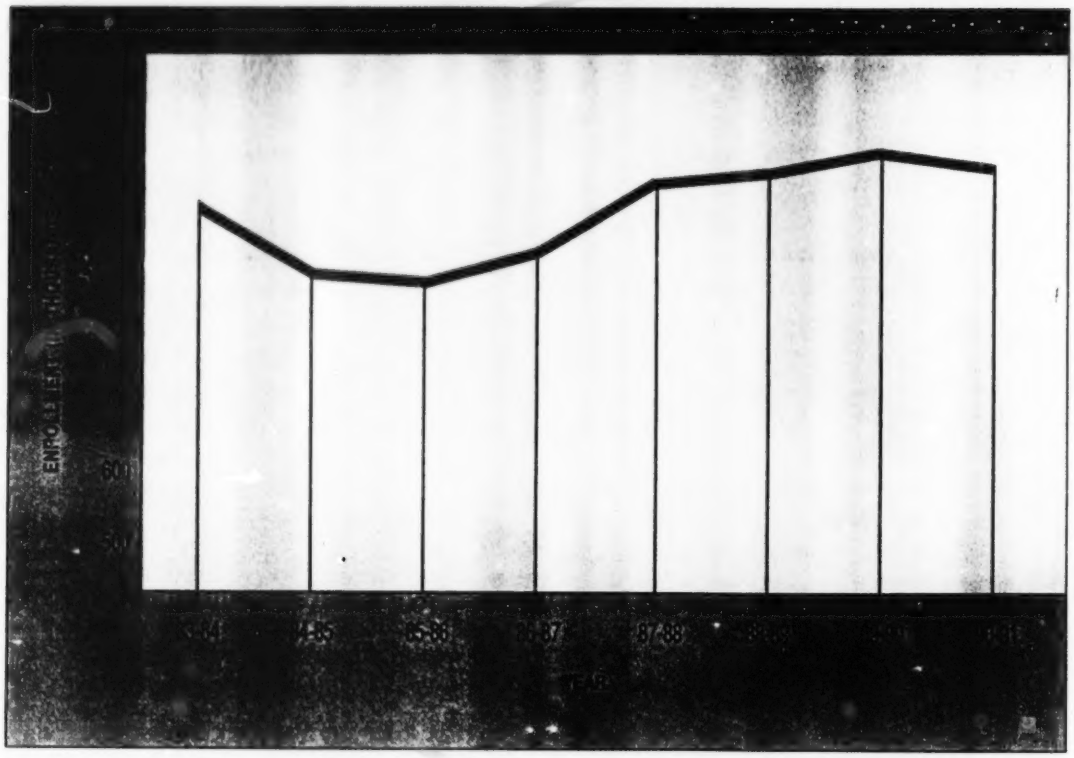
This report describes the impact Perkins I funds have made on our state vocational education programs. In constructing the Vocational and Applied Technology Education Act of 1990 (Perkins II), Congress looked at data and accomplishments such as those contained in this report. For example, Congress recognized the postsecondary system as a major provider of vocational education by providing a separate funding formula in Perkins II. The need for retraining and the upgrading of skills required of today's adult work force is central to Perkins II. The reauthorized law would not have taken the shape it did or have included the words "applied technology" in its title without the kind of retrospective glance we are presenting here for the years when Perkins I was in effect.

We hope you find the information helpful. As a result of the use of these important federal funds, many Californians were provided the training and services they needed to become part of a productive work force and improve the quality of their lives.

PAT STANLEY
Dean
Vocational Education

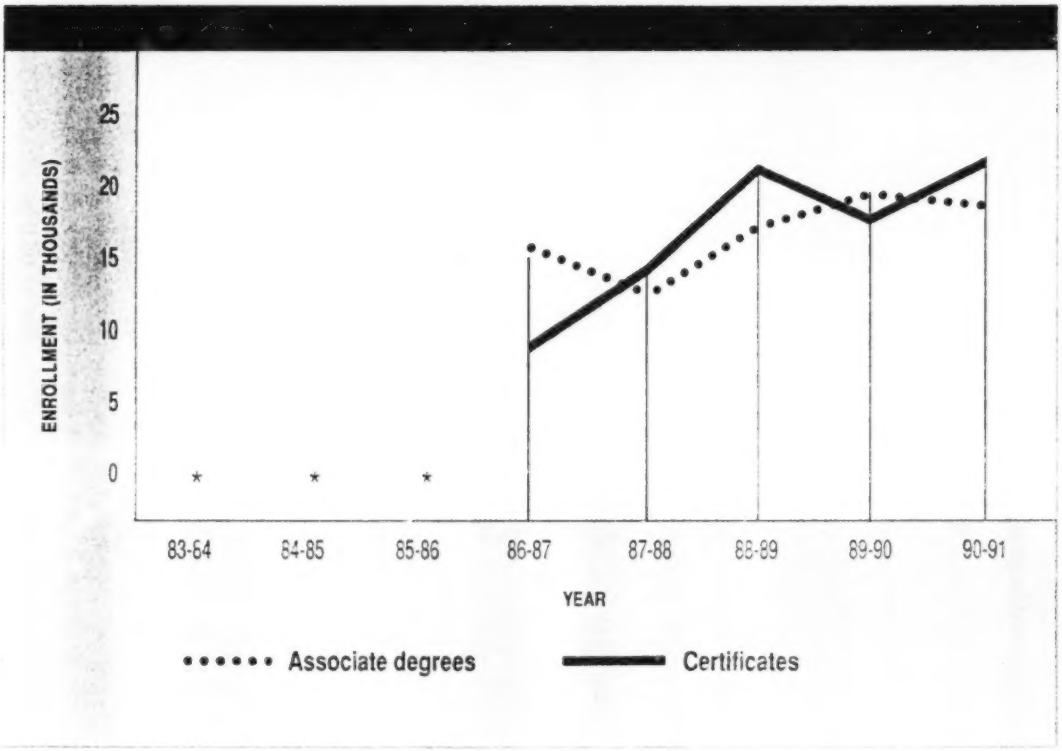
ENROLLMENT DATA

Total Vocational Education Enrollment, Fiscal Years 1983-84 Through 1990-91



Total enrollment, 1983-84 through 1990-91: 7,769,873.

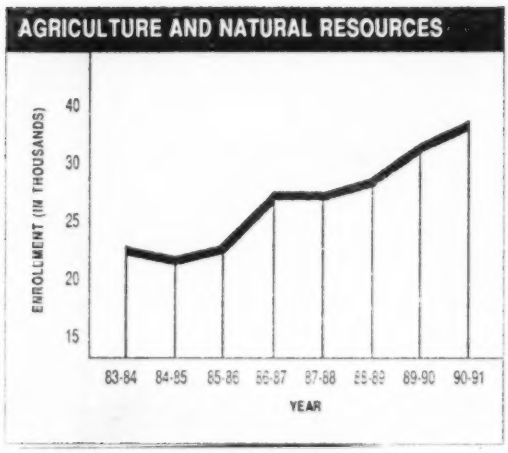
Total Vocational Education Enrollment, by Completers, Fiscal Years 1983-84 Through 1990-91



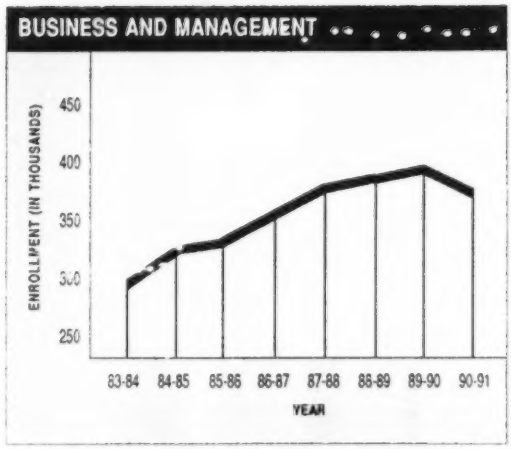
*Data not available.

CALIFORNIA COMMUNITY COLLEGES

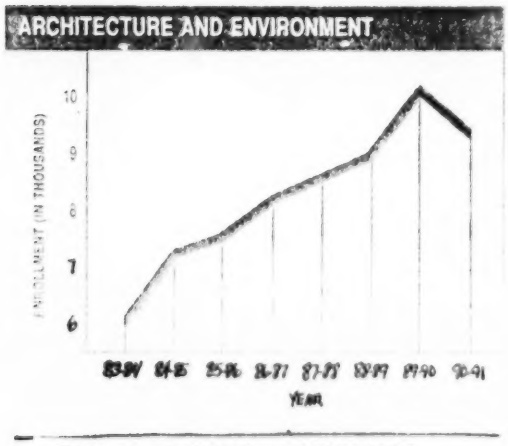
Vocational Education Enrollment, by Program Area, Fiscal Years 1983-84 Through 1990-91



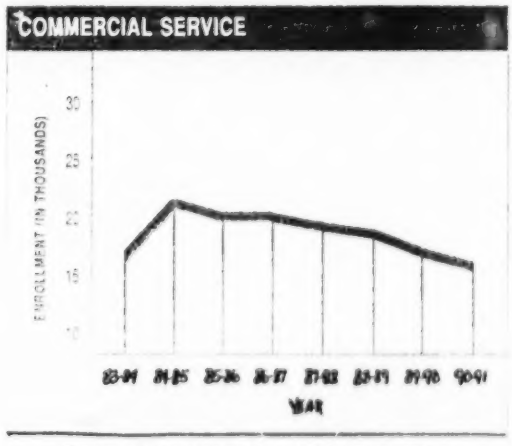
Total enrollment, 1983-84 through 1990-91: 217,490.



Total enrollment, 1983-84 through 1990-91: 2,851,964.

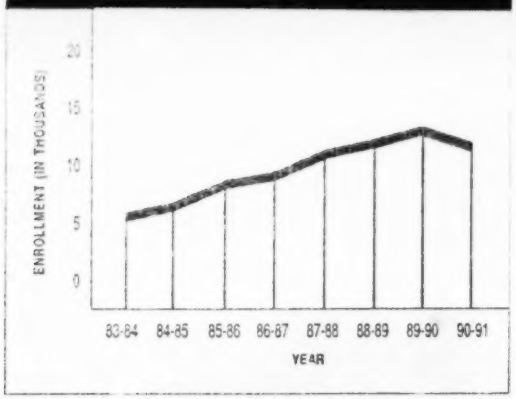


Total enrollment, 1983-84 through 1990-91: 66,208.



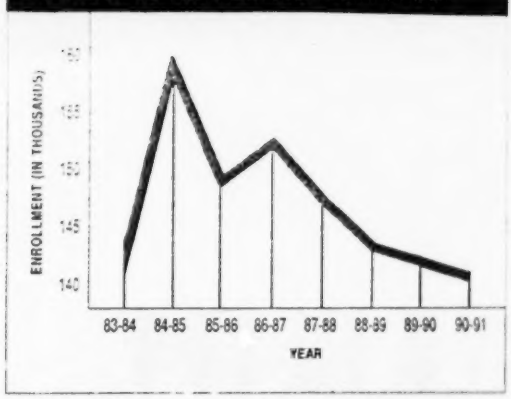
Total enrollment, 1983-84 through 1990-91: 149,880.

COMMUNICATIONS



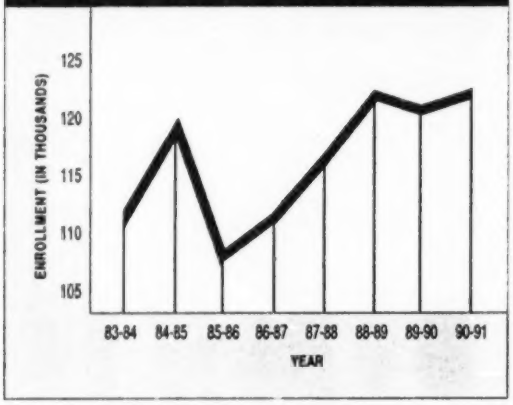
Total enrollment, 1983-84 through 1990-91: 72,496.

ENGINEERING AND RELATED TECHNOLOGY



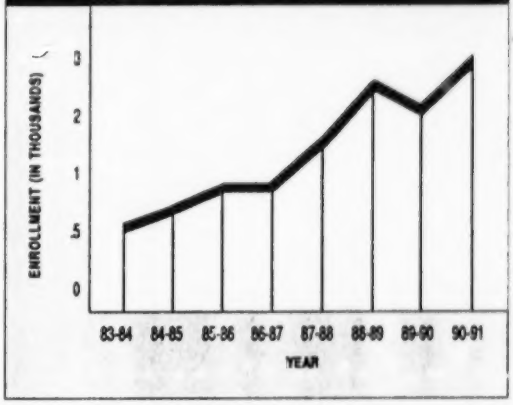
Total enrollment, 1983-84 through 1990-91: 1,183,853.

COMPUTER AND INFORMATION SCIENCE



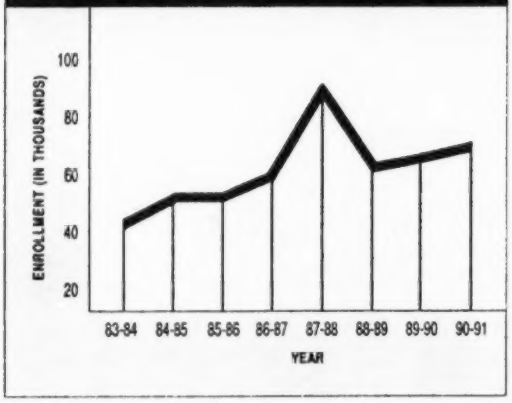
Total enrollment, 1983-84 through 1990-91: 935,942.

ENGLISH AS A SECOND LANGUAGE



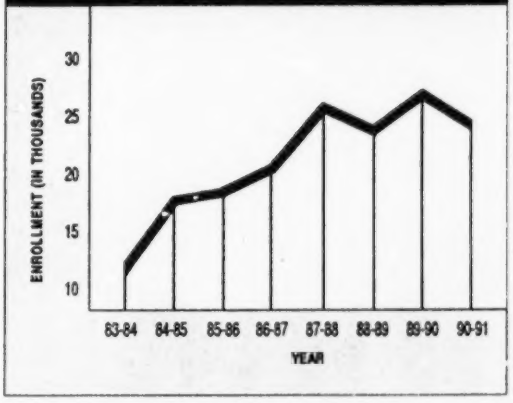
Total enrollment, 1983-84 through 1990-91: 12,101.

CONSUMER EDUCATION AND HOME ECONOMICS



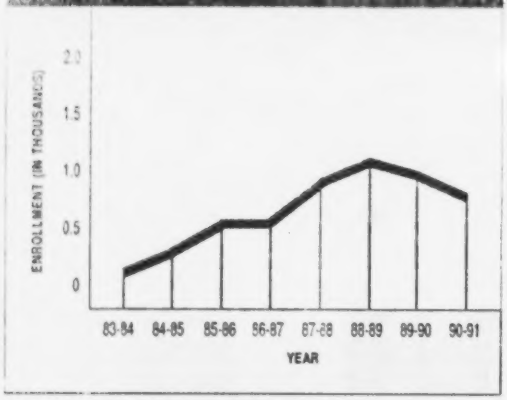
Total enrollment, 1983-84 through 1990-91: 502,386.

FINE AND APPLIED ARTS



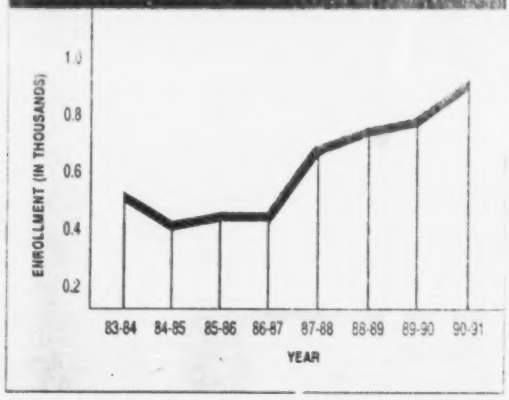
Total enrollment, 1983-84 through 1990-91: 170,926.

GEOLOGIC TECHNICIAN



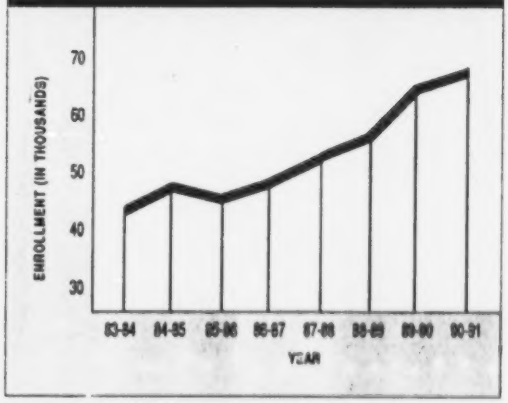
Total enrollment, 1983-84 through 1990-91: 5,564.

LIBRARY TECHNICIAN



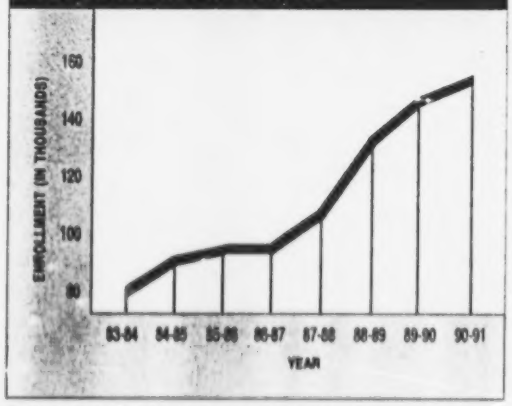
Total enrollment, 1983-84 through 1990-91: 5,050.

HEALTH



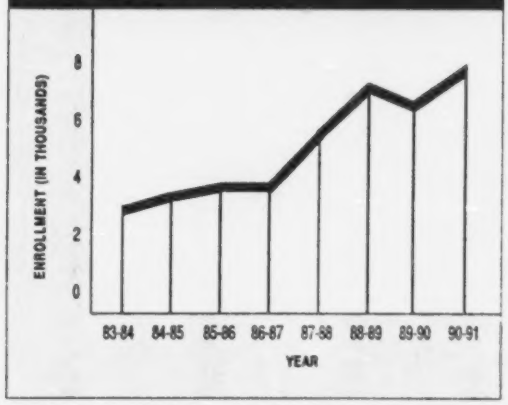
Total enrollment, 1983-84 through 1990-91: 433,500.

PUBLIC AFFAIRS AND SERVICES



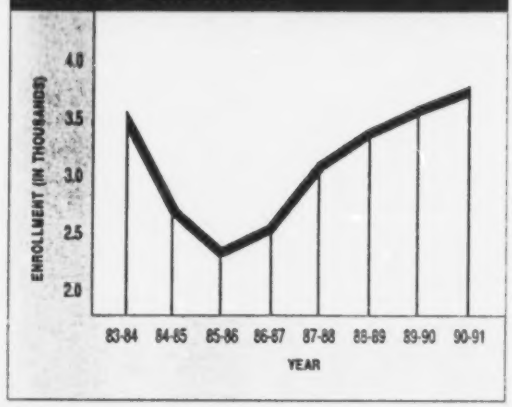
Total enrollment, 1983-84 through 1990-91: 916,315.

LEGAL ASSISTANT



Total enrollment, 1983-84 through 1990-91: 41,976.

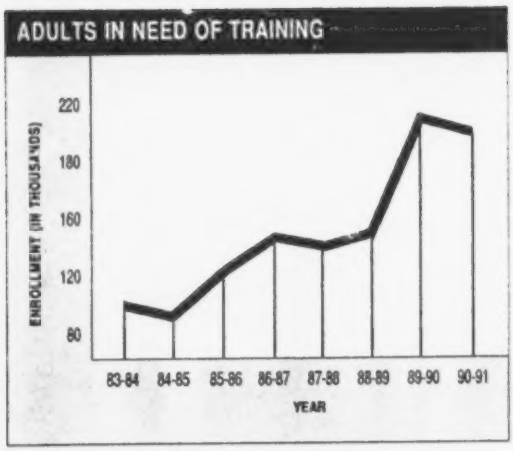
SPECIAL EDUCATION AIDE



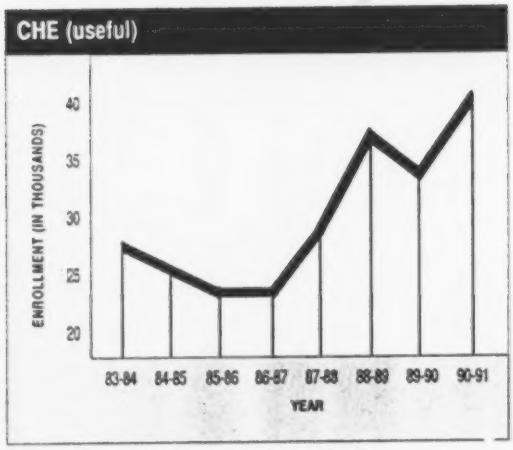
Total enrollment, 1983-84 through 1990-91: 12,101.

CALIFORNIA COMMUNITY COLLEGES

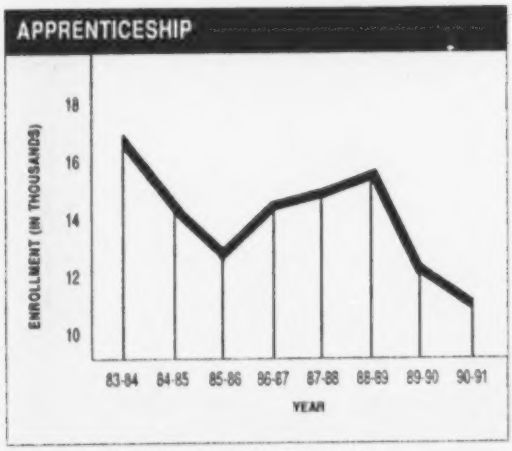
Vocational Education Enrollment, by Special Program Area, Fiscal Years 1983-84 Through 1990-91



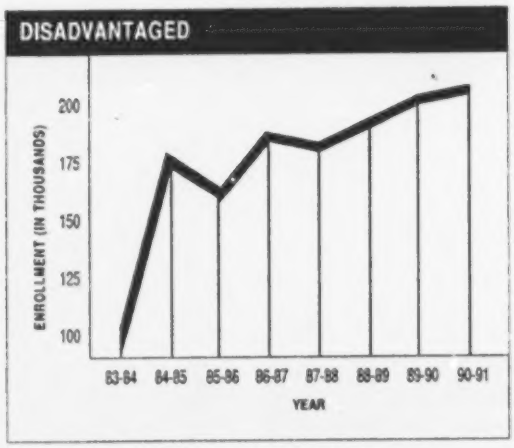
Total enrollment, 1983-84 through 1990-91: 12,101.



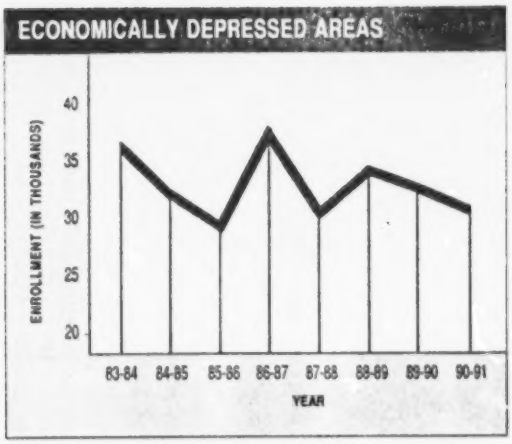
Total enrollment, 1983-84 through 1990-91: 242,562.



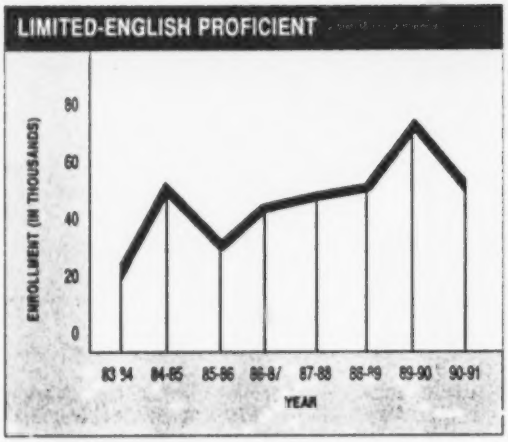
Total enrollment, 1983-84 through 1990-91: 113,520.



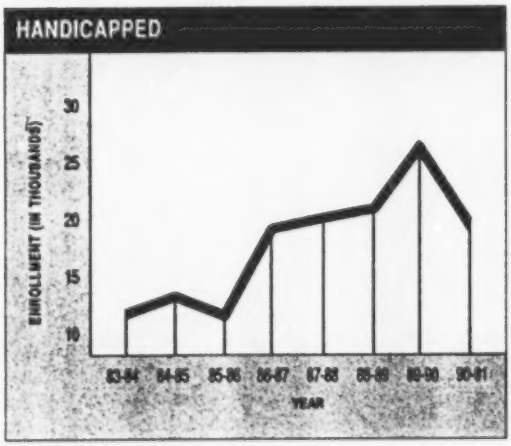
Total enrollment, 1983-84 through 1990-91: 1,445,386.



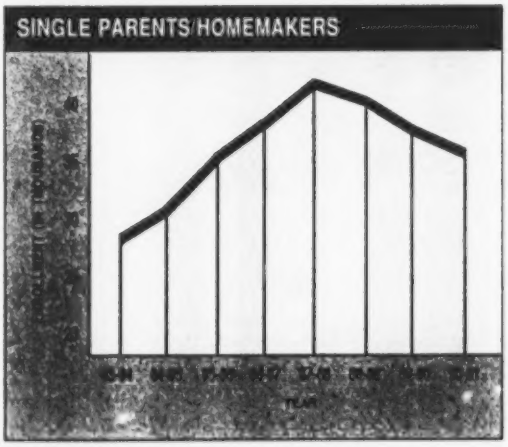
Total enrollment, 1983-84 through 1990-91: 264,466.



Total enrollment, 1983-84 through 1990-91: 377,162.



Total enrollment, 1983-84 through 1990-91: 149,386.



Total enrollment, 1983-84 through 1990-91: 290,916.

PROGRAM ACCOMPLISHMENTS

ADULTS IN NEED OF TRAINING

Dan Estrada

SUPPORT to train adults has continued as a priority of the Chancellor's Office, California Community Colleges. From 1983 through 1991 the Chancellor's Office funded vocational training programs and services in California's Department of Corrections facilities statewide. Another major effort was the initiation of employer-based training projects. These projects were funded to train adults in California's community colleges in partnership with private-sector companies.

Although vocational education funds were used from the beginning to leverage other state funds, the state administration started and has maintained state funds yearly for training of adults through economic development projects. As with other initiatives, curricula were revised and new curricula developed to serve adults in need of training in California community colleges more effectively. Additional models were used to provide career counseling and develop individualized educational plans for adult learners. Vocational guidance materials were widely disseminated, and training was conducted statewide to serve training and retraining needs of adults better.

Numerous professional development opportunities for community college staff were provided through the funding of PEER consulting and program renewal of occupational programs. In addition, conferences, issue forums, and in-service training sessions were held statewide to improve vocational programs and services for adults.

AGRICULTURE AND NATURAL RESOURCES

Kimberly Perry

AGRICULTURE, the strongest component of California's economy, is a dynamic and ever-changing industry. Instructors of agricultural education classes must know about new technologies affecting agriculture and must be able to incorporate them into the curriculum. In this way graduates will have the skills, knowledge, and attitudes needed for immediate employment. Over the life of the Vocational Education Act, agricultural education has been focused on staff in-service training, program improvement, and student leadership development.

In-service Training

The objectives of this training have been to (1) conduct two statewide conferences each year, one in December, the other in June, to provide instructors with an opportunity to learn about new technological advances in agriculture; (2) provide instructors with an opportunity, through an individualized in-service training program, to enhance their technical skills in conjunction with business and industry internships; and (3) coordinate professional development opportunities for agriculture and natural resources instructors.

Program Improvement

This project, titled the Agricultural Education Program Plan, was accomplished in three phases: needs assessment, curriculum review and revision, and program promotion.

Phase I involved a conference called Agri. Education 2000. Its purpose was to bring educators and business and industry representatives together for a frank discussion of the knowledge, skills, and attitudes needed by completers of agriculture programs. This conference was a forum for business and industry representatives to talk and for educators to listen.

In Phase II a document titled *The Agricultural Education Program Plan* was developed. The plan provides the curriculum framework for the six areas of agriculture: agribusiness, animal science, forestry and natural resources, mechanized agriculture technology, ornamental horticulture, and plant science. The framework consists of the following elements for each program area: mission statement; trends in the industry and career opportunities; programs and course listings; course descriptions, including core components and competencies; and key issues.

This plan also includes program standards, developed by community college instructors and the Agriculture and Natural Resources State Advisory Committee, that are designed to assist agriculture departments in the process of program improvement. These standards are categorized as career-relevant instruction; qualified instructors; professional development; facilities, supplies, and equipment; cooperative work experience education; program management; advisory committee; program faculty advising; extended employment; leadership and student organizations; career exploration; communications with agriculture and natural resources programs; placement and follow-up; and continuing education.

In Phase III a promotion and marketing package titled Food for Thought was produced. The purpose of this phase was to inform prospective students that a career in agriculture and natural resources is exciting and readily available in many community colleges. Included in the package disseminated to every agriculture and natural resources program were 15 videos, 20 posters, and 500 brochures.

Student Leadership Development

This annual project provides a number of community college agriculture student organizations an opportunity for continuing education in leadership development. A two-day conference is focused on leadership and management practices, knowledge, and applications related to a demand for practitioners of effective leadership behavior in the agriculture industry.

BUSINESS EDUCATION

L. Joyce Arntson (Irvine Valley College)
Kimberly Perry

MANY business education faculty from community colleges statewide benefited from special project funding carried out during 1983–1991. The following projects had significant results for the faculty and administration of the California Community Colleges, with ultimate benefit to the students of the colleges:

- A project of major impact on the curriculum and training of the business education faculty of the California Community Colleges was the Statewide Community College Instructional and Administrative Telecommunications Model Network. A total of 53 colleges and two college districts participated. This project provided the opportunity for the development of a model telecommunication network that served as an instructional tool and as an administrative support system.

  There were three phases of this project, each of which experienced increased participation among the community colleges statewide. Three curriculum guides in excess of 3,000 pages have been developed and shared statewide with faculty for creating new or expanded telecommunications course offerings. Training in the telecommunications technologies has been conducted for 76 faculty members.

  In addition, administrators from 24 of the community colleges and two school districts participated in the training and use of electronic mail for communications among themselves and the Chancellor's Office.

  Personal networks linking participating instructors and vocational education administrators were strengthened. Instructors and administrators active in the project especially valued the professional growth they experienced and the new contacts they have made as a result of those activities.
- Because business education changes significantly in technology and practice, staff development is extremely important to community college faculty. There have been two phases of a professional development project that have addressed the need to update business faculty. A total of 56 professional development activities serving a minimum of 1,580 faculty members were conducted.
- Twenty educators from the California Community Colleges participated in training in a leadership institute to upgrade teaching skills and provide training for their working in administrative and master teacher roles. As a result of the project, participants' colleges will have new and updated programs and facilities, a new faculty evaluation system, a greater emphasis on quality management, and professionals with new leadership skills.
- Twenty-two business educators participated in an internship program in business or other schools. Results for the interns' colleges are new and updated courses and programs, well-researched and planned facilities, new professional ties with other colleges, and faculty who are better informed about business practices.

- Through the Dissemination of Model Curriculum Project, a data base of over 1,500 course outlines in six program areas (Accounting, Management, Marketing, Real Estate, Secretarial and Office Automation, and Computer Information Science) are now available to teachers and administrators for use in creating new programs and updating existing ones. These course outlines are available on-line, in hard copy and on disk, and by facsimile (fax). In addition, the schools that created the curriculum were identified so that students might work together. As a result of this project, a statewide list of faculty members in Business Education has been updated for direct mailing.

CAREER COUNSELING AND GUIDANCE

Susan Sargent

THE Carl D. Perkins Vocational Education Act of 1984 (VEA) encouraged states to "utilize a full range of supportive services, special programs, and guidance counseling and placement to achieve the basic purposes of this Act." In fulfillment of this objective, staff development in guidance and counseling remained a high priority from 1983 through 1991 in the California community colleges. Shifting labor market trends, changing demographic patterns, and an increasing numbers of adults needing retraining, together with fewer college resources and shrinking budgets, created a pressing need for counselors to receive in-service training to meet these demands.

VEA became the impetus for establishing linkages between business and industry and education to fulfill the needs of counselors and prepare students more effectively to enter or advance in the changing work environment. During the initial years of implementation, funds were utilized to support job-shadowing activities in industry. Projects carried out in the workplace revealed to counselors the changing work force and new technologies. Updated information on the current labor market and future career opportunities were also made available.

In 1987 attention shifted from in-service training to identification of existing counseling services available to community college students and assessment of counselor needs in all the community colleges. Studies were funded to determine the scope of counseling services provided across the state. In addition, information was gathered on career centers, job placement offices, and vocational assessment centers as well as on the types of services available to students, including vocational assessment, career planning, and placement.

Survey results showed that 73 percent of the counselors were taking advantage of in-service training and felt that the need for ongoing training continued to exist. The findings also suggested that the role of the counselor was changing at the local level. Counselors no longer provided traditional vocational counseling but rather looked to a broader approach of career development when working with students. Helping students explore their career options, develop a career plan in their education curriculum, identify personal skills in relation to the world of work, and set their career goals all became part of the counseling process.

In later years of VEA the goal of providing staff development to help adults meet the changing work environment once again became prominent. Projects included training counselor peer consultants and business and industry consultants to provide technical assistance to colleges in identifying their program needs. Regional forums were initiated between industry and education to provide in-service training for counselors to address the specific needs of employers. The state worked with the National Occupational Information Coordinating Committee regarding the *National Career Development Guidelines*, which established a competency-based career development program. These guidelines are being incorporated into the community college system for use with college students.

COMMUNITY-BASED ORGANIZATIONS

Dan Estrada

FROM 1983 through 1991 the Chancellor's Office, California Community Colleges, undertook many projects to provide vocational education programs and services. Through many of these projects, partnerships were developed with community-based organizations to assist in strengthening vocational programs. Overall goals to be implemented with the assistance of community-based organizations included (1) providing vocational training in new and emerging occupations; (2) targeting persons who were unemployed, underemployed, or affected by economic dislocations or who had obsolete or inadequate skills; and (3) involving the business, industry, and labor communities in the support of vocational training programs.

Specific partnerships were developed between community colleges and community-based organizations. These partnerships allowed community colleges to respond to local needs by promoting new programs, high-technology programs, consortia efforts, and innovative groupings of programs and services and by securing facilities and equipment from business and industry. Model partnerships were responsible for the adoption of the Chancellor's Office model programs in state-supported programs, including efforts related to economic development, and professional development efforts for the California Conservation Corps and other state and local agencies.

CONSUMER HOME ECONOMICS

Peggy Sprout Olivier

THE mission of home economics in the California community colleges is to prepare individuals to function effectively in changing family, community, and work environments. Home economics provides educational opportunities that respond to future technologies and humanistic needs in preparing students for employment, advanced study, and lifelong learning. Home economics enables individuals to develop skills that improve the quality of life in a pluralistic society. The *California Plan for Career-Vocational Education* states that "the mission of career-vocational education in California is to enhance the personal and economic well-being of individuals and to develop human resources which contribute to the economic development of the state." Both mission statements are compatible.

Consumer Home Economics State Advisory Committee

A major effort for consumer home economics programs within the guidelines of the Carl D. Perkins Vocational Education Act was to establish a Consumer Home Economics State Advisory Committee. The membership of this committee is composed of community college representatives from each of the five consumer home economics content areas: fashion, interiors, life management, life span, and nutrition and food. Members from business and industry were identified for each of the content areas and appointed to the committee. Additional members were appointed to represent The California State University; California Community Colleges; Administrators of Occupational Education; and the Home Economics Unit, California Department of Education. Selection of the membership also provided for appropriate geographical, ethnic, and gender representation.

In 1987 a national commendation was presented to the state advisory committee on behalf of the California Community Colleges. Received by Patricia Stanley, the commendation was given to honor volunteers for their exemplary efforts in strengthening vocational-technical education programs.

To meet the goal of program improvement in consumer home economics programs, the state advisory committee directed the Chancellor's Office, California Community Colleges, to:

- Provide opportunities for staff development for local college professionals.
- Develop and maintain partnerships between industry and education.
- Increase the number of programs and services provided at local colleges.
- Provide for overall coordination of the program and services to make them cost-effective and efficient.

Consumer and Homemaking Education Funds

The advisory committee recommended that a study be conducted. Sierra College in Rocklin developed the scope of research and published a report titled *Consumer Homemaking Education in California's Community Colleges: A Description of Uses and Model Program Efforts* (1988). The research provided a historical perspective and detailed the status of programs under Public Law 98-524. In the study a questionnaire was

distributed to the 107 California community colleges. Each community college was asked to state the goals of its consumer home economics program activities. The findings were as follows:

Goal	*Percent of colleges*
Outreach to underserved populations	32
Parenting and family issues	25
General well-being	19
Consumer issues	17

The model programs identified through research were the following:

- Chaffey College: Strengthening Parents in Low-Income Communities Programs
- Fresno City College: Community Workshops
- Modesto Junior College: Bridge Program
- Orange Coast College: Consumer Resource Center
- Saddleback College: Workshops for the Hispanic Community

The state advisory committee recommended that opportunities for staff development be provided for local college professionals. The Chancellor's Office, California Community Colleges, provided those opportunities, focusing on the established research and strategies for developing model programs with consumer and homemaking education funds.

The research also studied the use of funds provided through an allocation system to all college districts with consumer home economics programs. The findings showed (1) that 12 percent of the funds allocated from 1985 through 1989 were not being used at the colleges and were returned; and (2) that the funds colleges received via the formula were insufficient to affect the consumer homemaking/program efforts. As a result of these findings, the state advisory committee recommended to the Chancellor's Office that future funding be subject to a competitive bidding. This recommendation was implemented with 1991-92 funds from the Carl D. Perkins Vocational and Applied Technology Education Act for Title III, Part B, Consumer and Homemaking Education.

Professional Development

The Home Economics Professional Development Committee, which served as the advisory group for special projects, continues to solicit nominees for model programs and selects the outstanding model programs for dissemination to all colleges.

In 1991 the innovations for selection were to be in a consumer home economics project, activity, or course and identified in one of the following categories:

- Recruitment and enrollment of new students on campus and through outreach
- Implementation of the revised program plan for community college home economics, with particular emphasis on interdisciplinary approaches
- Support program and services linkages, (e.g., gender equity, counseling, community services).

Compendium, a quarterly newsletter about home economics issues and trends in California community colleges, was begun with VEA

funding. It is through this newsletter that communication and professional development are accommodated. Another development was Info-Net, an electronic mail system that facilitates communication and technical assistance across California. This telecommunications network has a toll-free number for registered users.

Program Plan for California Community College Home Economics

The original *Program Plan for California Community College Home Economics* was produced for distribution in August, 1985, as a result of the initial meeting at Asilomar in the fall, 1984. In November, 1989, a task force of 65 selected home economics instructors, practitioners, and resource people convened in subject-area clusters to review the changes in their field and review, revise, and expand portions of the program plan. Each of the subject-matter areas—fashion, interiors, life management, life span, and nutrition and food—was addressed. A revised directory of community college home economics programs and staff has been added to the plan as a separate section. The mission was also reviewed, revised, and expanded. Articulation is an an important part of the program plan.

The *Program Plan and Directory for California Community College Home Economics* (1990) is the basis for the goals of leadership in the areas of professional development, quality programs and services, communication, technical assistance, and overall coordination.

Program Review

As a result of the availability of VEA funds and the program plan, a system of site reviews was initiated. A *site review* is a process in which teams of peers visit a college to assist with:

- Assessing the consumer home economics education program needs and offerings
- Providing insight into directions for growth and improvement
- Providing comments on to the Consumer Home Economics State Advisory Committee

Approximately eight colleges participated in the site review during this period of VEA funding. One of the reports noted that "site review is an excellent way for both the team and the college to have an exchange which is nonthreatening and to share the operational and mechanical functions of similar programs at different community colleges. Also, by being able to meet with administrators, faculty, staff, program advisory committee members, and students, the review is a learning experience for team members."

COOPERATIVE WORK EXPERIENCE EDUCATION AND JOB PLACEMENT

Kimberly Perry

BEGINNING in 1983, efforts in cooperative work experience education and job placement have been focused on the development of standards and quality indicators and the development of a center for cooperative work experience education.

Criteria and Quality Indicators for Cooperative Work Experience Education

In 1983 legislation was passed that gave the state guidelines for how cooperative work experience education (CWEE) programs were to be conducted. In addition, federal guidelines were established in Title VIII that described how funds could be used in to provide education in CWEE programs. These regulations delineated the criteria by which programs were evaluated. In any instructional program, however, quality is also an issue. Therefore, CWEE instructors, in conjunction with the California Association of Work Experience Educators, the California Cooperative Education Association, and the CWEE State Advisory Committee, developed indicators of program quality.

Both the legislated criteria and the quality indicators were included in the *California Community College Peer Program Review Manual.* This publication resulted from a four-year effort during which standards were developed, field-tested, and implemented. A system was set up to encourage individual community colleges to invite peers from neighboring campuses to review their program for improvement and enhancement.

Quality Indicators for Job Placement Programs

The mission of job placement in community colleges is to provide ongoing, comprehensive assistance to all students in obtaining employment. The purpose of the Job Placement Improvement Model is to help colleges assess their current placement program, identify strengths and needs for improvement, and plan for short-term and long-term development.

Center for Cooperative Work Experience Education

The purpose of the Center for Cooperative Work Experience Education is to promote qualitative growth by providing professional development training and resources for administrators, faculty, and staff. The primary goal of the center has been to provide a comprehensive staff development program for CWEE personnel at local sites, including individual attention, and at regional and state training seminars. Over the course of this continuing project, the center has conducted seminars in conjunction with professional organizations; conducted road-show seminars; developed training videos; broadcast a live teleconference; developed and revised the *CWEE Management Handbook;* printed and disseminated the *Peer Program Review Manual;* kept interested parties informed via quarterly newsletters; and served as a resource center for material relating to cooperative work experience education.

27

DISADVANTAGED STUDENTS

Dan Estrada

THE Chancellor's Office, California Community Colleges, funded a number of special projects from 1983 through 1991 to improve vocational education programs for disadvantaged students. Some examples of exemplary projects include the following:

- A project developed a three-year plan for paraprofessional teaching personnel to improve teaching and working with disadvantaged students, including limited-English-proficient students.
- Another project developed tutoring materials and tested the development of a diagnostic instrument and a team approach to tutoring. This development led to the promotion of the use of individualized learning plans later adopted by other state-funded programs.
- Strategies for recruiting and serving special population students, including the disadvantaged, were promoted and shared through in-service training workshops, issue forums, and statewide conferences.
- Specific curricula were developed or revised to serve disadvantaged students better.
- Other projects were responsible for community college districts developing master plans to serve special population students, including the disadvantaged.
- Because of dramatic shifts in student demographics during 1983–1991, vocational program materials were revised to serve ethnically diverse vocational education students. Career planning and awareness materials were also developed and disseminated.
- A model program was also funded to categorize exemplary projects and provide direct technical assistance to community college programs statewide.

Note: Although the efforts described here are extensive, they represent only a sampling.

GENDER EQUITY

Nancy Davenport

DURING the life of the Carl D. Perkins Vocational Education Act of 1984, California's community colleges were allocated 80 percent of all available funds designated to overcome sex bias and stereotyping. The allocations were based on a formula tied to enrollment.

The colleges were provided technical assistance through a variety of programs established with the remaining 20 percent of the funds available to the colleges. Examples of the type of assistance provided are as follows:

- Annual training conference
- Regional workshops
- Development of the *Quality Indicators Manual*
- Development of a gender equity how- to handbook
- Development of a documentation guide
- Provision of Gender Equity Management Systems on campus
- Facilitation of program planning
- Development, testing, and implementation of a program accountability model to collect data and provide accountability for these programs
- Development of a newsletter to share successful programs statewide

Gender equity programs in California community colleges are eliminating the barriers of sex bias and attempting to make a positive impact on the California economy by:

- Educating the work force in sophisticated technology
- Lowering unemployment
- Increasing per capita spending and responding to changing demographics and shifting family responsibilities
- Decreasing the number of welfare recipients and reshaping perceptions of individual successes
- Providing for personal improvement and developing public and private partnerships

Some of the tangible results of these programs are the following:

Business Education

- *Word processing operations.* The percentage of males enrolled in word processing rose every year between 1983 and 1988. Only 9 percent of the students enrolled in 1983 were men; but by 1988 that percentage had increased to 28 percent. General enrollment almost doubled in that period, from 4,921 students to 8,845, resulting from the growing use of computer equipment in business and the increasing availability of jobs for trained students.
- *General office operations.* In 1983 male enrollment in vocational office operations was 17 percent. By 1988 that percentage had increased to 27 percent. The availability of jobs requiring clerical skills and the breaking down of stereotypes has drawn more men into these vocational programs and subsequently into the work force.

Agriculture

In 1983 only 12 percent of students enrolled in vocational agriculture mechanics were

women. By 1988 that percentage had increased to 22 percent. With overall enrollment in the courses during that period nearly doubling, the number of women enrolled almost quadrupled.

Industrial Technology Education

- *Electronics communications.* Enrollment of women in electronic communications classes was 9 percent in 1983. The bright future and reliance on electronic products increased female enrollment in 1988 to 21 percent. These women can now earn $6 to $15 an hour at the entry level. With further education and attainment of electrical engineering degrees, starting salaries range from $25,000 to $30,000 a year.
- *Architectural drafting.* Enrollment of women grew from 19 percent in 1983 to 24 percent in 1988. The opportunities in the drafting work place are numerous. Continuing demand from manufacturing and engineering will create a favorable employment outlook in the coming years.
- *Educational aide.* Men made up 11 percent of persons enrolled in community college courses for educational aides in 1983. By 1988 that percentage had grown to 20 percent. The average starting wage is only $7.50 an hour, but bilingual and special education aides can earn more. Although most teaching aide positions offer only part-time employment, the classroom training is the first step toward becoming a full-time teacher.

Health Careers

Male enrollment in nursing assistant vocational classes rose from 14 percent in 1983 to 25 percent in 1988. The number of men in this traditionally female vocation is steadily growing. Vocational education courses and hospital training offered in the community colleges prepare students for nursing certification.

HANDICAPPED STUDENTS

Dan Estrada

FROM 1983 through 1991, a significant effort was made by the Chancellor's Office, California Community Colleges, to serve handicapped vocational education students more effectively. Special projects were designed, developed, and implemented to provide revised curricula and equipment so that handicapped students might more easily participate in vocational education programs. Model programs were developed through specific projects—for example, the Model Career Awareness and Career Planning Program for Students with Disabilities. This project served as a statewide model and included counseling services, individual and group instruction, computer-assisted instruction, and tutoring.

During the same period a statewide advisory committee for handicapped (disabled) and disadvantaged students (1) made numerous recommendations to establish specific vocational education special projects in staff development, program access and retention, curriculum improvement, and identification of research needs; and (2) conducted forums to disseminate data. Specific strategies were implemented to develop industry education and government partnerships through exemplary and innovative vocational special projects. Numerous professional development activities were conducted statewide in workshops, conferences, and issue forums. Curricula were updated, and major agency initiatives were implemented, including Investment in People projects, curriculum development for high-technology/aerospace manufacturing technology programs, and adoption of promising models and techniques to serve handicapped students better.

A separate initiative was implemented to assist career counselors in learning industry and business needs. This effort led to the implementation of a state-funded program, Career Counselor and Instructor In-service Training Program. Another effort that led to the joint funding of a statewide program to serve the disabled was the workability program, an expansion of a model project to train disabled students in the new technologies. While the efforts reported are extensive, this accounting is by no means comprehensive.

HEALTH OCCUPATIONS

Barbara Juzek

MAJOR accomplishments in health occupations within the community college system include the development of six regional health occupations resource centers. The centers, the latest addition to the California Community College Economic Development Network, are the focal point for regional coordination for issues related to health occupations programs in California community colleges. The centers work with the college faculty and the health care industry in each region to coordinate resources and provide an ongoing forum.

Services provided by the centers include the following:

- In-service education programs for health occupations faculty, counselors, and industry personnel
- Leadership in intersegmental articulation efforts in health occupations programs
- Coordination and leadership in the regions for helping students identify and access programs
- Dissemination of information on model curricula, recruitment and retention strategies, and needs assessment tools; and information on career opportunities and programs in health occupations within the community colleges

The statewide Health Advisory Committee has been very active on behalf of the California community colleges. The committee members—representatives from community college programs and the health care industry—carry out the development of major policies and strategic planning. The addition of regional center directors to the committee helps greatly in communicating information back to the colleges and schools through a statewide network.

The statewide committee recommended that several projects be given high priority for funding. Some of the completed projects are the following:

- *Evaluation of Health Occupations Programs* was developed to provide a resource to educators in health occupations programs for planning and comprehensive evaluation of their instructional program.
- *Career Guide in Health Occupations Programs* was developed to assist students, counselors, and employers with information on training for careers in health occupations available in the California community colleges. This guide identifies competencies, entry requirements, program locations, and pertinent career data.
- *Directory of Health Occupations Programs* is a resource guide to programs and locations throughout the system. This directory is used by the counselors and health occupations programs deans and staff.
- Several curriculum review studies have been accomplished in associate degree and vocational nursing programs and in the dental auxiliary programs in the community colleges.

In the last decade health occupations have shown major growth and accomplishments in the California community colleges. They have offered students many realistic career options.

PUBLIC SAFETY EDUCATION

Leo Ruelas

PUBLIC safety education in California community colleges encompasses vocational education instruction for police, firefighter, corrections, and hazardous materials personnel. In support of these activities, Carl D. Perkins Vocational Education Act (VEA) funds provided during the past eight years have made possible the development of human resources, technological advances in instructional methodologies, and replacement of antiquated classroom equipment.

The Administration of Justice Police Program is conducted in 86 community colleges throughout the state. With the support of VEA leadership funds, Denny F. Pace and members of the California Association of Administration of Justice Educators (CAAJE) completed a curriculum revision of the basic-core courses required of police students. This curriculum project was augmented by a companion publication titled *Critical Thinking Across the Curriculum.* At the present time a pilot program in the use of interactive video for police training is being conducted in six community colleges.

The early results of the program have demonstrated a reduction of more than 50 percent in the time required to learn a lesson. In addition, estimates of instructional cost indicated that this new instructional methodology may reduce expenses to a fraction of the cost for conventional classroom instruction.

The Chancellor's Office, California Community Colleges, monitors the distribution of VEA funds set aside for criminal offenders. Over the past eight years, approximately $2.5 million has been granted to the State Department of Corrections for vocational education programs. The Department conducts regular compliance reviews and quarterly meetings of a statewide vocational education advisory council to ensure proper utilization of funds. During this eight-year period the prison population has grown from under 50,000 to more than 100,000 inmates. Federal vocational education funds have provided an opportunity to replace outdated equipment and tools with modern units representing current technological advances. Over 80 percent of the $2.5 million has been utilized for this purpose. The Department takes particular pride in having applied a substantial portion of these funds to support vocational programs for women inmates. Vocational funding has also made possible professional development activities sorely needed by instructional staff employed in these settings.

The Chancellor's Office, California Community Colleges, works in partnership with the State Fire Marshal's Office to provide fire science education throughout the state. Thirty-five colleges offer courses in fire science and work closely with local fire departments in providing advanced courses. With the aid of VEA funds and under the direction of Myron Nadolski, a curriculum guide for five basic courses in fire technology was produced, and 500 copies were disseminated throughout the state. The Fire Marshal's Office is guiding the revision of advanced fire technology courses designed as a continuation of the five basic courses in fire science.

SINGLE PARENTS AND DISPLACED HOMEMAKERS

Nancy Davenport

UNDER the provisions of the Carl D. Perkins Vocational Education Act of 1984, California's community colleges were allocated 80 percent of all available funds designated to provide outreach and recruitment services for single parents and displaced homemakers. The allocations were based on a formula tied to the number of single heads of households whose income was below the poverty level.

The colleges were provided technical assistance through a variety of programs, which were established with the remaining 20 percent of the funds available to the colleges. Examples of the type of assistance provided are as follows:

- Annual training conference
- Regional workshops
- Development of the *Quality Indicators Manual*
- Development of a documentation guide
- Revision of Gender Equity Management Systems on campus
- Facilitation of program planning
- Development, testing, and implementation of a program accountability model to collect data and provide accountability for these programs
- Development of a newsletter to share successful programs statewide

The program accountability model was not developed until 1988 and was tested at 27 community colleges. In 1989-90 this effort was expanded to 40 colleges. Although incomplete, the following data reflect the impact of these programs.

- *Sex:* The overwhelming majority of program participants (96 percent) were female.
- *Age:* The greatest percentage of program participants (43 percent) were from thirty to thirty-nine years of age. Those from twenty to twenty-nine years of age constituted the next largest group (27 percent).
- *Ethnicity:* One-half of program participants were Caucasian, one-quarter were Hispanic, and approximately 16 percent were black. Other ethnic groups constituted less than 5 percent of participants.
- *Marital status:* The single greatest percentage of program participants were single, never married (35 percent). Divorced participants constituted approximately 25 percent; and married participants, with the spouse present, 22 percent.
- *Displaced homemakers:* Approximately one-half of program participants were classified as displaced homemakers.
- *Educational level:* Forty-three percent of program participants reported that they had completed high school, and an additional 30 percent had completed some postsecondary coursework.
- *Employment status:* Slightly over one-third of survey respondents (34 percent) were employed at the time they applied for program services, and the remainder

were not employed. Those who were employed reported that they earned an average of $8.58 per hour.

- *Income:* The majority of program participants were economically disadvantaged. Sixty-one percent of participants had total family incomes of less than $10,000, and 17 percent had incomes of $25,000 or more.

In addition to the above information, a telephone follow-up survey was conducted of a sample group. Although this group was too small to provide significant data, the results did appear positive.

The program accountability model will be fully implemented and should provide statistically significant data on several levels.

TRADE AND INDUSTRIAL EDUCATION

Albert Metzler

OVER the past several years, Sierra College in Rocklin has developed the Vocational Education Computer-managed-and-aided Instruction Project in response to the needs of secondary and community college vocational education instructors. Through this project instructors can keep up with the rapidly changing computer technologies revolutionizing society, industry, and education. Educators have recognized the need to acquire, update, and maintain proficiency in these new technologies to help produce the multiskilled work force needed by industry. The overall objectives of the joint project were to:

- Identify vocational education software that could be used at the community college and secondary school levels.
- Classify the software according to specific areas of interest: automotive, construction, drafting, electronics, manufacturing, and electronic publishing/design.
- Develop evaluation instruments for each subject area.
- Evaluate selected software, using the appropriate evaluation instrument.
- Publish a semiannual directory of the evaluated software that would include a product profile, a narrative of the applicability of the software for education, and the numerical results of the evaluation.
- Develop a concept for long-range continuation and management of the projects.

Industry played a vital role in the successful accomplishments of the projects. Vendors have either loaned or donated software in each of the six subject areas. The software companies have also provided specialized training to the lead college directors, participated in workshops, and publicized the project. A total of 394,264 commercial programs were evaluated during the previous phases of the project, and 130 public projects were also evaluated. The retail value of these programs exceeded $800,000.

The computer software industry, driven by new technologies and the search for a competitive advantage, continues to release updated versions of current programs and new programs at an ever-increasing rate. Everyday contacts with instructors, software vendors, and the industry continue to reinforce the realization that before students can be taught the latest technologies, educators need to be focused on the latest computer software, its adaptability to the desired technology curriculum, and the practical integration of that software into the classroom setting.

The project's overall goals were to develop and distribute a guide for technology software users specific to the needs of educators and hands-on workshops that provide step-by-step assistance to educators in helping them understand and implement software that fits their specific curriculum needs. The project has been supported by the California Department of Education and the Chancellor's Office, California Community Colleges. As more instructors recognize their need for technology information and training and want to take advantage of this special resource, the more the instructor sees the need for the expansion of the project.

During the current cycle a record 1,587 instructors and administrators from 605 separate institutions across California participated in the project.

In 1981 the Industrial Technology Education Unit of the Career-Vocational Education Division, California Department of Education, mounted an effort to meet the in-service training needs of instructors and administrators in industrial technology education across the state. In that year, with a budget commitment of $180,000, a group at California State University, Los Angeles (CSU-LA), in cooperation with the California Industrial and Technology Consortium (CITEC), became a reality. Nine regional centers, each under the leadership of a part-time local coordinator, were established. With the help of advisory committees and "cluster" chairpersons (e.g., for construction, manufacturing, drafting, electronics, graphics, automotive, and career exploration), each center coordinator began adding in-service activities. Workshops and other activities responsive to the needs of instructors and administrators in the regional service areas were organized and implemented.

Since 1982 the budget of the CSU-LA project has increased modestly to about $250,000 per year. Meanwhile, the budget for CITEC grew from $270,000 in 1982-83 to about $450,000 in 1986-87, a level that has been sustained since then. This growth stemmed in large measure from (1) a major model curriculum standards and program framework project as part of overall school reform efforts in California; and (2) a commitment of $100,000 per year from the Chancellor's Office, California Community Colleges, beginning in 1986.

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